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Nonexistence of minimal pairs in L[d]

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Abstract

© Springer International Publishing Switzerland 2015. For a d.c.e. set D with a d.c.e. approximation (Formula presented.), the Lachlan set of D is defined as (Formula presented.). For a d.c.e. degree d, L[d] is defined as the class of c.e. degrees of those Lachlan sets of d.c.e. sets in d. In this paper, we prove that for any proper d.c.e. degree d, no two elements in L[d] can form a minimal pair. This result gives another solution to Ishmukhametov's problem, which asks whether for any proper d.c.e. degree d, L[d] always has a minimal element. A negative answer to this question was first given by Fang, Wu and Yamaleev in 2013.

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